

another according to a certain order or method, which I always observ'd to be this.

12 That side of a *collateral* or *subcollateral*, &c. branch, lay over the side of the *approximate* (as the feathers in the wing of a Bird) whose branchings proceeded parallel to the last biggest stem from which it sprung, and not to the biggest stem of all, unless that were a second stem backwards.

13 This rule that held in the branchings of the *Sexangular Figure* held also in the branchings of any other great or small stem, though it did not proceed from a center.

14 The exactness and curiosity of the figuration of these branches, was in every particular so transcendent, that I judge it almost impossible for humane art to imitate.

15 Tasting several cleer pieces of this *Ice*, I could not find any *Urinous* taste in them, but those few I tasted, seem'd as *insipid* as water.

16 A figuration somewhat like this, though indeed in some particulars much more curious, I have several times observ'd in *regulus martis stellatus*, but with this difference, that all the stems and branchings are bended in a most excellent and regular order, whereas in *Ice* the stems and branchings are streight, but in all other particulars it agrees with this, and seems indeed nothing but one of these stars, or branched Figures frozen on *Urine*, distorted, or wreathed a little, with a certain proportion: *Lead* also that has *Arsenick* and some other things mixt with it, I have found to have its surface, when suffer'd to cool, figured somewhat like the branchings of *Urine*, but much smaller.

17 But there is a *Vegetable* which does exceedingly imitate these branches, and that is, *Fearn*, where the main stem may be observ'd to shoot out branches, and the stems of each of these *lateral* branches, to send forth *collateral*, and those *subcollateral*, and those *latero subcollateral*, &c. and all those much after the same order with the branchings, divisions, and subdivisions in the branchings of these Figures in frozen *Urine*; so that if the Figures of both be well consider'd, one would guess that there were not much greater need of a *seminal principle* for the production of *Fearn*, then for the production of the branches of *Urine*, or the *Stella martis*, there seeming to be as much form and beauty in the one as in the other.

And indeed, this Plant of *Fearn*, if all particulars be well consider'd, will seem of as simple, and uncompounded a form as any *Vegetable*, next to *Mould* or *Mushromes*, and would next after the invention of the forms of those, deserve to be enquir'd into; for notwithstanding several have affirm'd it to have seed, and to be propagated thereby; yet, though I have made very diligent enquiry after that particular, I cannot find that there is any part of it that can be imagin'd to be more seminal then another: But this onely here by the by:

For the freezing Figures in *Urine*, I found it requisite,

First, that the Superficies be not disturbed with any wind, or other commotion of the air, or the like.

Secondly,

Secondly, that it be not too long exposed, so as that the whole bulk be frozen, for oftentimes, in such cases, by reason of the swelling the of *Ice*, or from some other cause, the curious branched Figures disappear.

Thirdly, an artificial freezing with *snow* and *salt*, apply'd to the outside of the containing Vessel, succeeds not well, unless there be a very little quantity in the Vessel.

Fourthly, If you take any cleer and smooth Glasse, and wetting all the inside of it with *Urine*, you expose it to a very sharp freezing, you will find it cover'd with a very regular and curious Figure.

II.

Observables in figur'd Snow.

Exposing a piece of black Cloth, or a black Hatt to the falling *snow*, I have often with great pleasure, observ'd such an infinite variety of curiously figur'd *snow*, that it would be as impossible to draw the Figure and shape of every one of them, as to imitate exactly the curious and Geometrical *Mechanisme* of Nature in any one. Some coorse draughts, such as the coldness of the weather, and the ill provisions, I had by me for such a purpose, would permit me to make, I have here added in the Second Figure of the Eighth Scheme.

In all which I observ'd, that if they were of any regular Figures, they were always branched out with six principal branches, all of equal length, shape and make, from the center, being each of them inclin'd to either of the next branches on either side of it, by an angle of sixty degrees.

Now, as all these stems were for the most part in one flake exactly of the same make, so were they in differing Figures of very differing ones; so that in a very little time I have observ'd above an hundred several cizes and shapes of these starry flakes.

The branches also out of each stem of any one of these flakes, were exactly alike in the same flake; so that of whatever Figure one of the branches were, the other five were sure to be of the same, very exactly, that is, if the branchings of the one were small *Perallelipeds* or Plates, the branchings of the other five were of the same; and generally, the branchings were very conformable to the rules and method observ'd before, in the Figures on *Urine*, that is, the branchings from each side of the stems were parallel to the next stem on that side, and if the stems were plated, the branches also were the same; if the stems were very long, the branches also were so, &c.

Observing some of these figur'd flakes with a *Microscope*, I found them not to appear so curious and exactly figur'd as one would have imagin'd, but like Artificial Figures, the bigger they were magnify'd, the more irregularities appear'd in them; but this irregularity seem'd ascribable to the thawing and breaking of the flake by the fall, and not at all to the defect of the *plastick* virtue of Nature, whose curiosity in the formation of most of these kind of regular Figures, such as those of *Salt*, *Minerals*, &c.

O 2

appears